

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

for the following 1:100,000 Scale Map Areas:

Cape Sabel (Miami SW)
Charlotte Harbor (Tampa III)
Everglades City (Miami NW)
Fort Lauderdale (West Palm Beach SE)
Fort Myers (West Palm Beach NW)
Homestead (Miami SE)
Miami (Miami NE)
Naples (West Palm Beach SW)
Sanibel (Tampa IV)
West Palm Beach (West Palm Beach NE)

Introduction

The intent of these "notes" is to assist individuals unfamiliar with the National Wetlands Inventory to gain maximum utility from the maps and to understand their limitations. This brief documentation is not intended to provide detailed information on the wetland resources of the area. However, some additional source materials are identified.

Map Production

The maps were prepared by stereoscopic photo-interpretation of 1:80,000 scale quad centered color infrared photography taken in 1972 and 1973. Photo-interpretation and cartography was accomplished by Martel Labs, Inc., St. Petersburg, Florida. Partial funding for the project was supplied by the Jacksonville District, U.S. Army Corps of Engineers.

Location

The area covered by this report extends from Florida Bay in the south to the approximate center of Lake Okeechobee in the north and from the Atlantic to the Gulf coasts.

Ecoregions

The southeastern portion of the study area is located in the Humid Tropical Domain; Savanna Division; Everglades Province. The northwestern portion is in the Humid Temperate Domain; Subtropical Division, Outer Coastal Plain Province; Beech-Sweetgum-Magnolia-Pine-Oak Forest. For additional information consult Bailey, Robert G. 1978. Description of the ecoregions of the United States. USDA Forest Service. Interntn. Reg. Ogden, Utah. 77p.

Climate

The climate of the area is characterized by long, warm and humid summers and mild winters. Precipitation occurs during all seasons but based on mean

monthly totals, a rainy season occurs from June to October and relatively dry season occurs from November to April. Annual rainfall averages around 60 inches although there is some local variation. The growing season is long with a frost free period of eleven months throughout much of the area.

Area Description

Extensive wetlands constitute the predominant hydrological, geological, and biological features of the region. The land surface is nearly flat seldom exceeding 20 feet above sea level. Except for the excessively drained to somewhat poorly drained soils of the coastal ridge, the soils generally are poorly to very poorly drained. Many of the soils are organic. In fact, the Everglades is the largest, single body of organic soils in the world. The soil characteristics and abundant rainfall, promote a diversity of wetland types.

Human population densities are sparse except along the coastal ridge where rapid and continuous urbanization is causing wholesale conversion of natural habitats to an urban environment. Large acreages of wetlands have been drained, filled, or excavated for housing and commercial expansion. Displacement of agricultural by urbanization may also be influential in causing increased utilization of organic (wetland) soils for the production of sugar cane, winter vegetables, and beef cattle. The major area of agricultural development extends southward from Lake Okeechobee.

In his now classic study, J. H. Davis (1943) described the vegetative features of south Florida. For descriptive purposes, the area was divided

into seven physiographic regions: (1) Big Cypress; (2) Southeastern Coast and 10,000 Islands; (3) Everglades; (4) Miami Rock Ridge; (5) Southern Coast and Islands; (6) Eastern Flatlands; and (7) Western Flatlands. Alexander and Crook (1973) made an in-depth evaluation of vegetative changes in each region since Davis' report. It is suggested that those interested in the phytogeography and successional trends of the area consult these studies.

Wetland Classification

Wetland designations were made in accordance with Cowardin et al. 1977. Classification of Wetlands and Deepwater Habitats of the United States (An Operational Draft) and for situations when strict adherence to the classification was not possible, according to conventions developed by the National Wetlands Inventory. The following is a listing of the alphanumeric codes regularly appearing on the maps along with the wetland types to which they correspond as well as representative plant species constituents. No attempt has been made to list all possible combinations.

Map Symbols

M10W Marine, subtidal, open ocean

Permanently submerged area of open water.

M2BB Marine, intertidal, beaches or bars

Unvegetated beaches and bars exposed to the open ocean or gulf.

M2F1 Marine, intertidal, flats

Unvegetated offshore flats.

E10W Estuarine, subtidal, open water

Inshore open water containing at least 0.5 parts per thousand salinity.

E2FL Estuarine, intertidal, flat

Inshore flats periodically flooded by tides. Often called salt flats or pans.

E1,AB6 Estuarine, subtidal, aquatic bed, unknown submergent

or

E2AB6 or Estuarine, intertidal, aquatic bed, unknown submergent

Estuarine grass beds. Vegetation includes manatee grass (Syringodium filiformis), shoal grass (Diplanthera wrightii), widgeon grass (Ruppia maritima), seagrass (Halophila spp.) and a variety of macrophytic algae.

E2EM5P Estuarine, intertidal, emergent, narrow-leaved persistent, irregularly flooded

Irregularly flooded salt marsh. Most often black needlerush (Juncus roemerianus). May also include salt meadow cordgrass

(Spartina patens), Baker's cordgrass (Spartina bakerii), smooth cordgrass (Spartina alterniflora), salt grass (Distichlis spicata), glasswort (Salicornia spp.), sea blite (Sueda spp.), and saltwort (Batis maritima).

E2SS3 Estuarine, intertidal, scrub/shrub, broad-leaved evergreen

Most often mangrove swamps vegetated by red mangrove (Rhizophora mangle), black mangrove (Avicennia germinans) white mangrove (Laguncularia racemosa), and buttonwood (Conocarpus erecta).

Various water regimes may occur. To a lesser extent this designation may also identify areas vegetated by saltbush (Baccharis halimifolia), waxmyrtle (Myrica cerifera), Brazilian pepper tree (Schinus terebinthifolius), gumbo-limbo (Bursera simaruba), and strangler fig (Ficus aurea).

E2F03 Estuarine, intertidal, forest, broad-leaved evergreen

Generally mangroves exceeding 6 meters in height. Water regime often unknown (u)

E2F04 Estuarine, intertidal, forest, needle-leaved evergreen

Former mangrove areas which have been invaded by Australian pine (Casuarina equisetifolia).

L10W Lacustrine, limnetic, open water

Freshwater bodies exceeding 2 meters in depth.

L20W Lacustrine, littoral, open water

Freshwater bodies less than 2 meters in depth but exceeding 8 hectares in size.

L1AB5 Lacustrine, limnetic, aquatic bed, floating

Beds or mats of freshwater aquatic vegetation which float freely on the surface. Plant species include water hyacinth (Eichornia crassipes), water lettuce (Pistia stratiotes), water fern (Salvinia rotundifolia), and duckweeds (Lemna spp.).

L2AB5 Lacustrine, littoral, aquatic bed, float

Same as L1AB5 except for shallow water depth.

L2AB4 Lacustrine, littoral, aquatic bed, floating-leaved

Rooted freshwater aquatic vegetation the leaves of which form mats on the water surface. Species include lotus (Nelumbo lutea), spatterdock (Nuphar luteum), and water lily (Nymphaea spp.).

L2AB6 Lacustrine, littoral, aquatic bed, unknown submergent

Submerged mats of freshwater aquatic vegetation. May include elodea (Elodea densa), hydrilla (Hydrilla verticillata), tape grass (Vallisneria neotropicalis), pondweeds (Potamogeton spp.), coontail (Ceratophyllum demersum) and water milfoil (Myriophyllum spp.) .

R10W Riverine, tidal, open water

That segment of coastal rivers which are tidally influenced but have ocean derived salinities of less than 0.5 parts per thousand.

R20W Riverine, lower perennial, open water

Open unvegetated freshwater located within a natural or man-made channel. Streams, rivers, drainages ditches, and canals are placed in this category.

R1AB5 Riverine, tidal, aquatic bed, floating

Mats of freshwater aquatic vegetation located within tidal channel. Species composition as for L1AB5.

R2AB5 Riverine, lower perennial, aquatic bed, floating

Same as R1AB5 except not under tidal influence.

R1AB4 Riverine, tidal, aquatic bed, floating-leaved

As for L2AB4 except located within a tidal river channel.

R2AB4 Riverine, lower perennial, aquatic bed, floating-leaved

Same as above although without tidal influence.

R1AB6 Riverine, tidal, aquatic bed, unknown submergent

Same as L2AB6, however located within a tidal river channel.

R2AB6 Riverine, lower perennial, aquatic bed, unknown submergent

Same as above except without tidal influence.

POW Palustrine, open water

Freshwater areas less than 8 hectares in area or less than 2 meters depth. Usually ponds, borrow pits, etc.

PAB5 Palustrine, aquatic bed, floating

Small shallow water bodies vegetated by water hyacinth, water lettuce, duckweeds and other non-rooted aquatic vegetation. Water regimes vary.

PAB4 Palustrine, aquatic bed, floating-leaved

Small shallow water bodies vegetated by rooted vascular plants having leaves which float at the surface such as water lily, lotus, spatterdock or water shield (Brasenia schreberi).

PAB6 Palustrine, aquatic bed, unknown submergent

Submerged mats of aquatic vegetation found in small shallow water bodies. Vegetation may or may not be rooted. Species same as L2AB6.

PEM5A Palustrine, emergent, narrow-leaved, persistent, temporarily flooded

The vegetation is usually grass-like and these areas are often referred to as "fresh meadows". Much of this habitat type has been modified by ditching and flooding occurs briefly during the growing season. Typical species include Carex spp., beard grass (Andropogon virginicus), beak rushes (Rhynchospora microcarpa), cordgrass (Spartina bakerii), torpedo grass (Panicum repens), pennyworts (Hydrocotyle spp.) and wire grass (Aristida sp.). In the Everglades area dominant vegetation within this classification includes beard grass, muhly grass (Muhlenbergia filipes), foxtail grass (Setaria sp.), and sawgrass (Cladium jamaicense).

Note: This habitat type may also be identified as "PEM1A".

PEM5C Palustrine, emergent, narrow-leaved persistent, seasonally flooded

Sometimes described as shallow marsh or wet prairie, these areas are flooded for extended periods often for several months or more. Typical species include sawgrass, soft rush (Juncus effusus), maidencane (Panicum hemitomon), panic grasses (Panicum spp.), smartweed (Polygonum spp.), and spikerushes (Eleocharis spp.). Note: This habitat type may also be identified as "PEM1C."

PEM5F Palustrine, emergent, narrow-leaved persistent, semipermanently flooded

Known as deep sloughs, these areas may remain flooded throughout the growing season. Species include spikerushes, maidencane, beakerushes, and Oxypolis filiformis. Extensive monotypic stands of cattail (Typha spp.) are also designated as this type.

PEM5/6F Palustrine, emergent, narrow-leaved persistent and broad-leaved persistent

Species composition similiar to "PEM5F" mixed with broad-leaved species such as arrowhead (Sagittaria spp.), pickerelweed (Pontederia cordata), arrowroot (Thalia geniculata), and arrow arum (Peltandra virginica).

PSS1C Palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded

Sometimes called shrub swamps, these areas are vegetated by woody vegetation of less than 6 meters in height. Water regimes vary from seasonally flooded (C) to semipermanently flooded (F). Representative species are black willow (Salix nigra), common willow (Salix caroliniana), Florida willow (Salix floridana) and bottonbush (Cephalanthus occidentalis).

PSS2C Palustrine, scrub-shrub, needle-leaved deciduous, seasonally flooded

Designation used to describe areas dominated by stressed or immature cypress trees (Taxodium distichum). Flooding usually occurs for extended periods. In areas where flooding takes place throughout the entire growing season, the semipermanently flooded (F) water regime is applied.

PSS3A Palustrine, scrub-shrub, broad-leaved evergreen, temporarily flooded

Areas dominated by a variety of evergreen shrubs and trees less than 6 meters tall. Dominant species include wax myrtle, groundsel tree, Brazilian pepper tree. Everglades hammocks with this designation are often dominated by red bay (Persea

borbonia), sweet bay (Magnolia virginiana), dahoon holly (Ilex cassine) and cocoplum (Chrysobalanus icaco).

PF01C Palustrine, forested, broad-leaved deciduous, seasonally flooded

Occasionally called bottomland hardwoods or swamps, these areas are dominated by deciduous trees greater than 6 meters tall. Common species include red maple (Acer rubrum), willows, water ash (Fraxinus caroliniana), water oak (Quercus nigra), and laurel oak (Quercus laurifolia).

PF02F Palustrine, forested, needle-leaved, deciduous, semipermanently flooded

Cypress dominated areas known as swamps, heads, or strands. Trees exceed 6 meters in height. Flooding usually extends throughout the growing season.

PF03A Palustrine, forested, broad-leaved evergreen, temporarily flooded

Areas dominated by evergreen trees greater than 6 meters tall. Where dominated by red bay, sweet bay or other types of bay trees, they are often called "bayheads". Extensive areas in the drier portions of Everglades with this designation have been colonized by the punk tree (Melaleuca quinquenervia). Communities dominated by palm trees also may be given this designation. Commonly occurring species are royal palm (Roystonea elata) and cabbage palm (Sabal palmetto).

PF04A Palustrine, forested, needle-leaved deciduous, temporarily flooded

Sometimes called "flatwoods", these areas are dominated by slash pine (Pinus elliottii) or Australian pine. The water table may be high for extended periods but flooding usually occurs for brief periods only.

Alphanumerics which identify mixed Classes and Subclasses also appear on the maps. Mixed categories are easily recognized by the slash appearing in the code as with PF02/EM1F. The slash can be read as "and" making the designation Palustrine, forested, needle-leaved and emergents, persistent, semipermanently flooded. This designation could have been used to describe an interspersed cypress and sawgrass. Mixes or combinations of this type are nearly unlimited and are therefore not described separately in this report.

Special Mapping Problems

Because the photography was taken in 1972 and 1973, land use changes in southern Florida were considerable by the time map production was begun in 1978. Since the photography was the basic source of data, conditions as of 1973 are shown on the finished map products. Many areas shown as wetland have by now been converted to agriculture and residential or commercial property by drainage and filling. In some instances water conditions have also been altered and a best effort was made to select the proper water regimes visible from the photography.

It was not possible to consistently identify the water regimes in mangrove dominated wetland. Therefore, the unknown water regime was utilized.

Additional Information

For additional information regarding any aspect of the wetland mapping, the user is encouraged to contact:

Regional Wetland Inventory Coordinator

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Atlanta, Georgia 30303